REMARKS/ARGUMENTS

With this Amendment, Applicant amends claims 1, 12, 14, and 15, cancels claim 7 without prejudice or disclaimer and adds new claims 16-20. No new matter is added. Therefore, claims 1-5, 8-12 and 14-20 are all the claims currently pending in the application. Based on the foregoing amendments and the following remarks, Applicant requests reconsideration of the application and allowance of the claims.

I. Rejection of Claims 1-3, 7-12, 14 and 15 Under 35 U.S.C. § 103

Claims 1-3, 7-12, 14 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,579,347 to Linquist et al. (hereinafter "Lindquist") in view of U.S. Patent No. 6,275,087 to Dehghn (hereinafter "Dehghn").

Claim 1 requires "[a] method ... comprising: applying an inverse filter characteristic to a received modulated signal over a predetermined number of samples to compensate for the effect of the effective filter characteristic; *determining the modulation extremes* of the filtered signal by determining minimum and maximum signal amplitudes over the predetermined number of samples; and *determining a DC offset for the signal from the modulation extremes*; and processing the signal to compensate for the offset."

Applicant submits that the combination of Linquist and Dehghn does not teach or suggest the features of claim 1. Applicant again submits that Lindquist does not disclose determining a DC offset by determining the modulation extremes of a received modulated signal as again contended by the Examiner. Applicant respectfully submits that the Examiner is misconstruing and/or misinterpreting the disclosure of Lindquist with respect to this feature of claim 1. In particular, it appears from the Examiner's comments of the Office Action that the Examiner is interpreting the calculation of the amplitude "r" discussed in column 8 of Lindquist as being somehow equivalent to "determining the modulation extreme." Applicant respectfully disagrees.

Claim 1 is herein amended to recite that "determining the modulation extremes comprises determining minimum and maximum signal amplitudes over a predetermined number of samples. This feature is definitely not the method being carried out by Lindquist, either alone or in combination with Dehghn and as such Lindquist, either alone or in

combination with Dehghn does not teach or suggest the features of claim 1. Rather, Lindquist (either alone or in combination with Dehghn), at best, discusses averaging I or Q signals over a time period to find the DC value of the signal. The method described in columns 8 and 9 of Lindquist deals with a situation with identical DC offsets in I and Q branches $p_2(t)$. This is an idealized situation which is not applicable for static DC as required by claim 1. As previously pointed out, Lindquist does not teach or suggest a static first order DC offset as required by claim 1, but instead deals with a dynamic or second order DC offset. The teaching of Lindquist is not applicable to static DC which will generally not be identical in the I and Q branches.

Furthermore, averaging I or Q signals over a time window is not the same as finding the modulation extremes as recited in amended claim 1, i.e. "by determining minimum and maximum signal amplitudes over a predetermined number of samples." In fact, there is a distinct advantage in using the modulation extremes instead of simply finding the averages for a GMSK signal. The average of I or Q in a time window will only equal the DC level of I or Q if the modulation symbols are random and the time window is large. By estimating the DC from the modulation extremes, the DC level can be determined with good precision without the requirement of the modulated data symbols to be random. Claim 1 only requires a few identical modulated bits (000 or 111) in sequence and a sequence of changing modulated bits (1010). This requirement is more easily fulfilled in a small time window than the requirements of the ideal I or Q signals having zero average. Therefore, not only is the method of claim 1 different to that of Lindquist, either alone or in combination with Dehghn, but it has distinct advantages.

Applicant notes that the Examiner correctly concedes that Lindquist does not teach or suggest all of the features of claim 1. However, the Examiner relies on Dehghn to make up for the deficient teachings of Lindquist. (See pg. 3 of the Office Action) Applicant submits that Dehghn even when combined with Lindquist still does not make up for the deficiencies of claim 1. In contrast to claim 1, Dehghn, either alone or in combination with Lindquist, at best, describes the possibility of using an inverse filter to compensate for existing impairments in "the channel and/or receiver component that causes the DC error."

Dehghn, at best, mentions the idea of using an inverse filter but then Dehghn argues

that this is not feasible. Dehghn, either alone or in combination with Lindquist, does not specifically describe how the inverse filter should be designed. In fact, Dehghn imagines the system having a zero at sp=0 and a pole at sp=0 and alleges that this is not feasible. Claim 1 relates to a method of how to use a system like this which specifically teaches away from the disclosure of Dehghn. Specifically, the features of claim 1 avoid the problem with a pole at sp=0 by using the inverse filtered signal only for finding modulation extremes but not for further processing. Once the modulation extremes are determined from the filter signal and a DC offset is determined, then the original signal carried out can be compensated for (as required by claim 1) by the declining expediential. This mitigates the "instability problem."

Based on at least the foregoing reasons, Applicant submits that the combination of does not teach or suggest all of the features of claim 1. Applicant therefore respectfully requests the Examiner to reconsider and withdraw the § 103(a) rejection of claim 1 and its dependent claims 2-5, 8-11 and 16.

Since claims 12, 14 and 15 contain features that are analogous to, though not necessarily coextensive with the features recited in claim 1, Applicant respectfully requests the Examiner to reconsider and withdraw the § 103(a) rejection of independent claims 12, 14 and 15 for reasons analogous to those submitted for claim 1.

II. Rejection of Claims 4 and 5 Under 35 U.S.C. § 103(a)

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindquist in view of Dehghn and further in view of Applicant's admitted prior art (AAPA). Applicant respectfully traverses this rejection for at least the following reasons.

As discussed above, Lindquist and Dehghn are deficient vis-à-vis independent claim 1 and the AAPA does not make up for the deficiencies of Lindquist and Dehghn. Accordingly, claims 4 and 5 are patentable at least by virtue of their dependency from claim 1. Applicant therefore respectfully requests the Examiner to reconsider and withdraw the § 103(a) rejection of claims 4 and 5.

III. New Claims

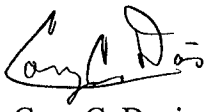
Applicant has herein added new claims 16-20 in order to more fully cover various aspects of Applicant's invention as disclosed in the specification. Applicant submits that claim 16 is at least patentable by virtue of its dependency from claim 1. Additionally, Applicant submits that claims 17-20 are patentable because the cited combination of references does not teach or suggest the recitations of these claims. Applicant further notes that in embodiments of the system of the present invention, in the RF receiver there is a constant DC (the output from the RF mixture) and the claimed invention addresses the problem of reducing the dynamic range requirements in the analogue to digital conversion. This is done by introducing a high pass filter in the analogue domain and a compensating inverse filter in the digital domain. In embodiments of the system of the present invention, a high pass filter characteristic is introduced in the analogue domain by DC cancellation circuits 33, 34 (See Figure 3 of the application). This is compensated for by a matching inverse filter in the digital domain. New independent claims 17 and 19 recite that the effective filter characteristic is a high pass filter characteristic, and new dependent claims 18 and 20 recite that this is due the DC cancellation circuit. Unlike, Dehghn, either alone or in combination with Lindquist, claims 17 and 19 does not require compensation for unavoidable existing impairment in the "channel or receiver component."

IV. Conclusion

In view of the foregoing remarks, Applicant respectfully submits that all of the claims of the present application are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. Examiner Wang is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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